

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026639**Date Inspected:** 02-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Fred Von Hoff**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Sections**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Orthotropic Bridge Girder (OBG) Sections:

13E/14E – weld joint D-3: This weld joint requires the minimum preheat temperature (200°F) to be continuous during welding and post heating for 3 hours after the completion of welding. This QA Inspector observed QC Inspector Fred Von Hoff verify the minimum preheat and the following Flux Cored Arc Welding (FCAW) parameters for ABF welding personnel Jin Pei Wang (#7299); 245 amperes and 24.8 volts at a travel speed of 191 mm per minute to produce a heat input of 1.91 Kj per mm. The heat input and welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4 being used by the QC Inspector. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the welding at this location. This QA Inspector observed that welding was completed at approximately 0900 hours this shift and that the induction heating blankets were positioned over the weld to start the 3 hour post heating. This QA Inspector confirmed with QC Inspector Fred Von Hoff the post heating temperature was greater than 200°F and that it was removed shortly after 1230 hours this date.

12W/13W Longitudinal Stiffeners (LS) LS-4: This QA Inspector observed ABF welding personnel Fred Kaddu (#2188) grinding on the weld joint in preparation of the fit up. Later this shift QC Inspector John Pagliero

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informed this QA Inspector he had inspected and accepted the weld joint fit up. This QA Inspector performed a random visual inspection of the fit up after approximately 15% of the root pass had been welded noting that ceramic backing had been used and it appeared to have complied with the contract requirements. This QA Inspector was informed by QC Inspector John Pagliero that he had verified the following Shielded Metal Arc Welding (SMAW) parameters for ABF welding personnel Fred Kaddu (#2188); 135 amperes. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15-1012-3 being used by the QC Inspector. This welding location was turned over to QA Inspector William Clifford after the verifications noted above.

12E/13E weld joint D-1: This QA Inspector observed ABF welding personnel James Zhen (#6001) and Jin Pei Wang (#7299) were moving and setting up the equipment for the FCAW process at this location. started approximately 1430 hours – QC Fred Von Hoff....welding not completed this date.

13E/14E weld joint D-1: This QA Inspector observed ABF welding personnel Rick Clayborn (#2773) and ABF personnel Ian Murphy setting up to begin fitting up this weld joint. This QA Inspector randomly observed QC Inspector Sal Merino verified the following SMAW parameters; 133 amperes. This QA Inspector observed a E7018H4R, 3.2 mm diameter electrode was being used. See photos below. This QA Inspector observed QC Inspector Sal Merino verify the minimum preheat temperature of 200°F was obtained prior to welding the fit up aids at various locations on the bottom of these OBG sections. The fit up aids (nuts) welded and observed by this QA Inspector appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Sal Merino measuring the planar offset at various locations from inside the OBG sections. This QA Inspector performed a verification of the measurements and observed basically the same measurements. Note the fit up was in progress and all measurements were preliminary, but in general the vast majority of the measurements were within the tolerances being used by the QC Inspector. Lead QC Inspector Bonifacio Daquinag Jr. informed this QA Inspector the plate thickness on the 13E side was 30 mm and the 14E side was 35 mm therefore the planar offset tolerance was 3 to 8 mm. The work regarding the fit up was in progress at the end of the shift this date.

13E/14E weld joint I: This QA Inspector observed at the top and bottom of this weld joint on the 14E side the plate appears to have been cut, see photos below. According to QC documents this has been designated as a SPCM weld joint.

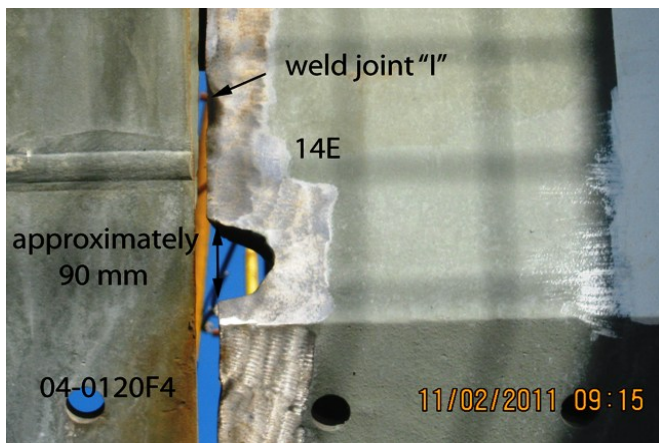
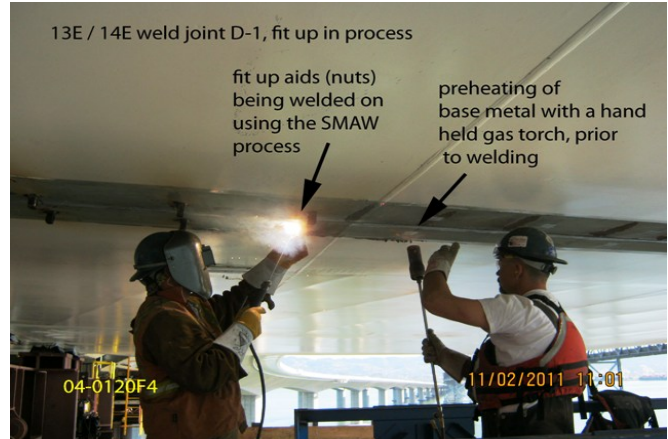
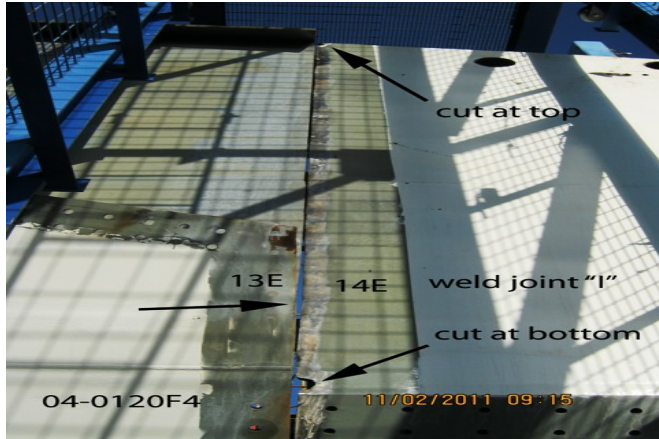
This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted above there were no notable conversations.

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Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer